

QY 1 TGGACACTCCCCCGCTGTCCGCTTTCGCTCGCTCGCTCGCTCGCTTGGGGGGTGGCAGCT 60

Db 1 TGGACACTCCCCCGCTGTCCGCTTTCGCTCGCTCGCTCGCTTGGGGGGTGGCAGCT 60

QY 61 CAAAGAGCTGCCAGACGACGCGCCCTCTGGCGGTCCGCCGCCCAACACGAGCGAGCGGA 120
Db 61 CAAAGAGCTGCCAGACGACGCGCCCTCTGGCGGTCCGCCGCCCAACACGAGCGAGCGGA 120
QY 121 GCGAACGCGACAGGGGGGAGAGTGCCACACTCTCAAGCAAGGGGGTCTTTGTAAGCAGTGA 180
Db 121 GCGAACGCGACAGGGGGGAGAGTGCCACACTCTCAAGCAAGGGGGTCTTTGTAAGCAGTGA 180
QY 181 TGTCATAATGATGTAATGCTTATTGTCACGGGATAGTTAATTAAGTAACAGTCAATGTGATG 240
Db 181 TGTCATAATGATGTAATGCTTATTGTCACGGGATAGTTAATTAAGTAACAGTCAATGTGATG 240
QY 241 TGTGTTTATCCAAATAGAGAAAGCGCGGTATGAGTTCTCGCGAGACTTCGCGGGGTATAA 300
Db 241 TGTGTTTATCCAAATAGAGAAAGCGCGGTATGAGTTCTCGCGAGACTTCGCGGGGTATAA 300
QY 301 AAGACCGAGTGAAACGAGCGCGCGCAATCTTTGCTCTGGAATGCTAGAGACCCCTCGCT 360
Db 301 AAGACCGAGTGAAACGAGCGCGCGCAATCTTTGCTCTGGAATGCTAGAGACCCCTCGCT 360
QY 361 GCCATGGCTACCTTCTATGAAAGTCAATGTTGCGGTCCTCATTTGACGTGAGAGAACATCTG 420
Db 361 GCCATGGCTACCTTCTATGAAAGTCAATGTTGCGGTCCTCATTTGACGTGAGAGAACATCTG 420
QY 421 CCTGGAATTTCTGACAGCTTTCTGGACTGGGTAACTGGTCAAAATTTGGGAGCTGCTCCA 480
Db 421 CCTGGAATTTCTGACAGCTTTCTGGACTGGGTAACTGGTCAAAATTTGGGAGCTGCTCCA 480
QY 481 GAGTCAGATTTAAATTTGACTCTGGTTGAACAGCCTCAGTTGACCGTGGCTGATGAAAT 540
Db 481 GAGTCAGATTTAAATTTGACTCTGGTTGAACAGCCTCAGTTGACCGTGGCTGATGAAAT 540
QY 541 CGCGCGGTGCTCTGTAAGAGTGAAACAAATTTTCAAGCAGAGTCCAAATTTCTTTGTG 600
Db 541 CGCGCGGTGCTCTGTAAGAGTGAAACAAATTTTCAAGCAGAGTCCAAATTTCTTTGTG 600
QY 601 CAGTTTGAAAGGGATCTGAAATTTTCACTGACACAGCTGTGAGAGCCTCGCGCATC 660
Db 601 CAGTTTGAAAGGGATCTGAAATTTTCACTGACACAGCTGTGAGAGCCTCGCGCATC 660
QY 661 TCTTCCATGCTCTCGCGCGCTACGTGAGTCAAGTTCGCGCCAGCTGGTGAAGTGGTC 720
Db 661 TCTTCCATGCTCTCGCGCGCTACGTGAGTCAAGTTCGCGCCAGCTGGTGAAGTGGTC 720
QY 721 TTCACGGGAATTGAAACCCAGATCAACGACTGGGTGCGCATCACCAGAGGTAAAGAGGGC 780
Db 721 TTCACGGGAATTGAAACCCAGATCAACGACTGGGTGCGCATCACCAGAGGTAAAGAGGGC 780
QY 781 GGAGCCAATAAGTGTGATTTCTGGGTATATTCCGCGCTTACCTGCTGCCGAAGGTCCAA 840
Db 781 GGAGCCAATAAGTGTGATTTCTGGGTATATTCCGCGCTTACCTGCTGCCGAAGGTCCAA 840
QY 841 CCGAGCTTCAGTGGGCGTGGACAAACCTGGACGAGTATAAATTTGGCGCGCTGAAATCTG 900
Db 841 CCGAGCTTCAGTGGGCGTGGACAAACCTGGACGAGTATAAATTTGGCGCGCTGAAATCTG 900
QY 901 GAGGAGGCHAAACGGCTCGTGGCAGTTTCTGGCAGAAATCTCTCGCAGCGCTCGCAGGAG 960
Db 901 GAGGAGGCHAAACGGCTCGTGGCAGTTTCTGGCAGAAATCTCTCGCAGCGCTCGCAGGAG 960
QY 961 GCGGCTTCGAGCGTGAATTTCTGGGTGACCCCGTCAATCAAAAGCAAGACTTCCACAGAAA 1020
Db 961 GCGGCTTCGAGCGTGAATTTCTGGGTGACCCCGTCAATCAAAAGCAAGACTTCCACAGAAA 1020
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Db 1021 TACATGCGCTCGTCAACTGGCTGGAGACGCGATCACTTCCGAGAGCAGTGGATC 1080
QY 1081 CAGGAAATCAGGAGAGTCACTCTCTCAACTCCACCGGCACTCTCGAGCGCATC 1140
Db 1081 CAGGAAATCAGGAGAGTCACTCTCTCTCAACTCCACCGGCACTCTCGAGCGCATC 1140

QY 1141 AAGCCGCGCTCGACAAACGCGACCAAAATTAATAGTCTGACAAAAAGCGCGGTGACTAC 1200
Db 1141 AAGCCGCGCTCGACAAACGCGACCAAAATTAATAGTCTGACAAAAAGCGCGGTGACTAC 1200
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Db 1201 CTGCTGGGAGCTCGGTTCGCGAGACATTTCAAAACACAAATCTGCAAAATTTTTCAG 1260
QY 1261 ATGAATGCTACGACCCGCGCTACGCGGATCCATCTCTACGGTGGTGTGACGCTCC 1320
Db 1261 ATGAATGCTACGACCCGCGCTACGCGGATCCATCTCTACGGTGGTGTGACGCTCC 1320
QY 1321 TTCAACAGAGGAAACACCGTCTGCGACCCGCGCACGACCGGCAAGACCAACATC 1380
Db 1321 TTCAACAGAGGAAACACCGTCTGCGACCCGCGCACGACCGGCAAGACCAACATC 1380
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Db 1381 GCGAGGCGCATCGCCACACTGTGCGCTTTTACGGCTGGTGAATGACCAATGAAAAC 1440
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Db 1501 AACAAAGTGGTTGAATCCGCCAAGGCCATCTGGGGGGCTCAAAAGTGGCGGTGATCAG 1560
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Db 1561 AAATGTAATCCTCTGTTCAAAATTCATTTACCCCTGTCAATTTGAATTTCCAAATCAAAAC 1620
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Db 1621 ATGTGTGTGGTGGATGGGAATTTCCAGACCTTTTGAAACACGACGCGCTGGAGGAC 1680
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Db 1681 CCGATGTTCAAAATTTGAACTGATGAAGCGCTCCGCCAGATTTTGGCAAGATTACTAAG 1740
QY 1741 CAGGAAGTCAAGGACTTTTTCCTGGGCAAAAGGTCAATCAGGTGCGGTGACTCACGAG 1800
Db 1741 CAGGAAGTCAAGGACTTTTTCCTGGGCAAAAGGTCAATCAGGTGCGGTGACTCACGAG 1800
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Db 1801 TTTTAAAGTTCCAGGGAATTTGGCGGAACTTAAAGGGCGGAGAAATCTCTAAACGCCCA 1860
QY 1861 CTGGGTGAGCTCACCAATAGTACTATAAGTCTGGAGAGCGGCGGAGGCTCTCATTT 1920
Db 1861 CTGGGTGAGCTCACCAATAGTACTATAAGTCTGGAGAGCGGCGGAGGCTCTCATTT 1920
QY 1921 GTTCCGAGACGCTCGCAGTTTCAGACGTGACTGTTGATCCCGCTCTCTGCGACCGCTC 1980
Db 1921 GTTCCGAGACGCTCGCAGTTTCAGACGTGACTGTTGATCCCGCTCTCTGCGACCGCTC 1980
QY 1981 AATTTGAATTTCAAGGTATGATGCAATGTAATGTAATGTAATGTAATGTAATGTAAT 2040
Db 1981 AATTTGAATTTCAAGGTATGATGCAATGTAATGTAATGTAATGTAATGTAATGTAAT 2040
QY 2041 AACAAATGTAATGTAATGTAATGTAATGTAATGTAATGTAATGTAATGTAATGTAAT 2100
Db 2041 AACAAATGTAATGTAATGTAATGTAATGTAATGTAATGTAATGTAATGTAATGTAAT 2100
QY 2101 GTAACTCACTGTCAAAATTTGTCTATGGGATTTCCCGCTGGGAAAGGAAACTTGTGAGAT 2160
Db 2101 GTAACTCACTGTCAAAATTTGTCTATGGGATTTCCCGCTGGGAAAGGAAACTTGTGAGAT 2160
QY 2161 TTTGGGATTTTGAAGTCAATTAAGAAACAGTAAATTAAGCAGTAGTCACTGCTCTTT 2220
Db 2161 TTTGGGATTTTGAAGTCAATTAAGAAACAGTAAATTAAGCAGTAGTCACTGCTCTTT 2220
QY 2221 GTTGATCACCCCTCCAGATTTGTTGGAAGAGTTGGTGAAGGTCTTCGCGAGTTTTCGGC 2280

Db 2221 GTTGATCCCTCCAGATTGGTTGAAGAAGTTGGTGAAGTCTTCGCGAGTTTITGGGC 2280
QY 2281 CTTGAAGGGGCCCAACCCAAACCCAAATCAGCAGCATCAAGATCAAGCCCGTGGT 2340
Db 2281 CTTGAAGGGGCCCAACCCAAACCCAAATCAGCAGCATCAAGATCAAGCCCGTGGT 2340
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Db 2461 GCGGGAGACAAACCCCTACTCTCAAGTACAAACCCAGGAGCGGAGTTCAGGAGAGCTC 2520
QY 2521 GCCGACGACATCCTTTGGGGGAAACCTCGGAAAGGAGTCTTTTCAAGGCCAAGAAAGG 2580
Db 2521 GCCGACGACATCCTTTGGGGGAAACCTCGGAAAGGAGTCTTTTCAAGGCCAAGAAAGG 2580
QY 2581 GTTCTCGAACCCTTTTGGGCTGGTTGAAGAGGTGCTAAGACGGGCCCTTACCGGAAAGCGG 2640
Db 2581 GTTCTCGAACCCTTTTGGGCTGGTTGAAGAGGTGCTAAGACGGGCCCTTACCGGAAAGCGG 2640
QY 2641 ATAGACGACCACTTTCCAAAGAAAGAGGCTCGGACCGGAGGACTCCAGCCCTTC 2700
Db 2641 ATAGACGACCACTTTCCAAAGAAAGAGGCTCGGACCGGAGGACTCCAGCCCTTC 2700
QY 2701 ACTCTGTGACGCGGAGTGGACCCAGCGGATCCAGAGCTGCAAAATCCAGCCCA 2760
Db 2701 ACTCTGTGACGCGGAGTGGACCCAGCGGATCCAGAGCTGCAAAATCCAGCCCA 2760
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Db 2761 CCAGCTCAAGTTTGGAGCTGATACAAATGCTCGGGAGGTGGCGGCCATTTGGGCGAC 2820
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Db 2821 AATAACCAAGTGCAGTGGAGTGGCAATGCTTCGGGAGATTGGCAATTCGATTCACG 2880
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Db 2881 TGGATGGGACAGAGTCGTCAACAGTCCACCGGAACTTGGGTGCTGCCAGCTACAAC 2940
QY 2941 AACCCAGGTACGAGAGATCAAAAGCGGCTCGGTGACGGAAGCAACGCCACGCTAC 3000
Db 2941 AACCCAGGTACGAGAGATCAAAAGCGGCTCGGTGACGGAAGCAACGCCACGCTAC 3000
QY 3001 TTTTGGATACAGCAACCCCTGGGGGTACTTTGACTTTTAAACCGCTTCCACAGCCACTGGAGC 3060
Db 3001 TTTTGGATACAGCAACCCCTGGGGGTACTTTGACTTTTAAACCGCTTCCACAGCCACTGGAGC 3060
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Db 3061 CCCCGAGATGGCAAGACTCATCAACACTACTGGGGCTTCAGACCCCGGTCCTCAGA 3120
QY 3121 GTCAAAATCTTCAACATTCAGTCAAGAGGTCAACGAGTCAAGGACTTCCACCAACCATC 3180
Db 3121 GTCAAAATCTTCAACATTCAGTCAAGAGGTCAACGAGTCAAGGACTTCCACCAACCATC 3180
QY 3181 GCCAACAACTCCTCCACCGTCCAAGTGTTTTACGAGCAAGCACTACAGCTGCCCTAC 3240
Db 3181 GCCAACAACTCCTCCACCGTCCAAGTGTTTTACGAGCAAGCACTACAGCTGCCCTAC 3240
QY 3241 GTCGTGGCAACCGGACCGAGGATGCTGCCGGCTTCCCTCCGAGGTCTTTAAGCTG 3300
Db 3241 GTCGTGGCAACCGGACCGAGGATGCTGCCGGCTTCCCTCCGAGGTCTTTAAGCTG 3300
QY 3301 CCGCACTACGGTACCGGAGCTGAACCGGCAACACAGAAATCCGACCGAGAGGAGC 3360

Db 3301 CCGCAGTAGCGTTACGCGACGCTGAAACGCGACACACAGAAAATCCACCGAGAGGAGC 3360
QY 3361 AGCTTCTTCTGCTAGAGTACTTTCCCAAGCAAGATGCTGAGAACGGGCAACACTTTTGAG 3420
Db 3361 AGCTTCTTCTGCTAGAGTACTTTCCCAAGCAAGATGCTGAGAACGGGCAACACTTTTGAG 3420
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Db 3421 TTTTACCTACAACTTTGAGGAGGTGCCCTTCCACTCCAGTTCGCTCCAGTCAGAACCTG 3480
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QY 3541 ACTGGCGAGTTCAGTTCACAAAGAACTGGCCGGGAGATACGCCAACACCTTACAAAAC 3600
Db 3541 ACTGGCGAGTTCAGTTCACAAAGAACTGGCCGGGAGATACGCCAACACCTTACAAAAC 3600
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Db 3601 TGGTTCCCGGGGCCCATGGGCGGAACCCAGGCTGGAACCTGGGCTCGGGGTCAACCGC 3660
QY 3661 GCCAGTGTACGCGCTTTCGCCACAGACCAATAGGATGGAGTCCAGGCGCGAGTTACAG 3720
Db 3661 GCCAGTGTACGCGCTTTCGCCACAGACCAATAGGATGGAGTCCAGGCGCGAGTTACAG 3720
QY 3721 GTGCCCCCGGAGCGGAACGGGATGACAAACAACTCCAGGGCAGCAACCTATGCCCTG 3780
Db 3721 GTGCCCCCGGAGCGGAACGGGATGACAAACAACTCCAGGGCAGCAACCTATGCCCTG 3780
QY 3781 GAGAACTACTATGATCTTCAACAGCCAGCGCGGAACCCGGGCCACCGCCACGTAACCTC 3840
Db 3781 GAGAACTACTATGATCTTCAACAGCCAGCGCGGAACCCGGGCCACCGCCACGTAACCTC 3840
QY 3841 GAGGGCAACTGTCTCATCACAGCGAGCGAGACGCGCGGTGAACCCGGTGGCGTAC 3900
Db 3841 GAGGGCAACTGTCTCATCACAGCGAGCGAGACGCGCGGTGAACCCGGTGGCGTAC 3900
QY 3901 AAGTGGCGGGCAGATGGCCACCAACACAGAGTCCACCACTGCCCCCGGACCGGC 3960
Db 3901 AAGTGGCGGGCAGATGGCCACCAACACAGAGTCCACCACTGCCCCCGGACCGGC 3960
QY 3961 ACCTTAACTCTCAGAAATTCGTCGCGGCGAGCGTGTGGATGGAGGGAGCTGTACTC 4020
Db 3961 ACCTTAACTCTCAGAAATTCGTCGCGGCGAGCGTGTGGATGGAGGGAGCTGTACTC 4020
QY 4021 CAAGGACCCATCTGGGCCAAGATCCAGAGACGCGGGCGCACTTTCACCCCTCTCCGGCC 4080
Db 4021 CAAGGACCCATCTGGGCCAAGATCCAGAGACGCGGGCGCACTTTCACCCCTCTCCGGCC 4080
QY 4081 ATGGGCGGATTCGGACTCAAAACCAACCGCCCATGATGCTCATCAAGAACCGCTGTG 4140
Db 4081 ATGGGCGGATTCGGACTCAAAACCAACCGCCCATGATGCTCATCAAGAACCGCTGTG 4140
QY 4141 CCGGAAATATCACAGCTTCTCGGAGCTGCCGTGAGAGTTCATCATCCAGTACAGC 4200
Db 4141 CCGGAAATATCACAGCTTCTCGGAGCTGCCGTGAGAGTTCATCATCCAGTACAGC 4200
QY 4201 ACCGGCAGGTCAACCGTGGAGATGGAGTGGAGCTCAAGAGGAAACTCCAAGAGTGG 4260
Db 4201 ACCGGCAGGTCAACCGTGGAGATGGAGTGGAGCTCAAGAGGAAACTCCAAGAGTGG 4260
QY 4261 AACCCAGAGATTCAGTACAAACAACTACAGCCCGAGTTTGGACTTTGCCCGC 4320
Db 4261 AACCCAGAGATTCAGTACAAACAACTACAGCCCGAGTTTGGACTTTGCCCGC 4320
QY 4321 GACGACACCGGGGATACAGAACCCAGACCTTTCGGAACCCGATACCTTACCCGACCC 4380
Db 4321 GACGACACCGGGGATACAGAACCCAGACCTTTCGGAACCCGATACCTTACCCGACCC 4380
QY 4381 CTTTAAACCCATTCATGTGCTATACCTCAATAAACCGTGTATTTGCTGTCAGTAAATACT 4440
Db 4381 CTTTAAACCCATTCATGTGCTATACCTCAATAAACCGTGTATTTGCTGTCAGTAAATACT 4440

QY	1501	AACAAAGTGGTGAATCCGCAAGCCCATCTCGGGGGCTCAAAGTGGGGTCCGATCAG	1560	Db	2581	GTCTCGAACCTTTTGGCTGGTTGAAGAGGGTGTAAGACGGCCCTTACCGGAAGCGG	2640
Db	1501	AACAAAGTGGTGAATCCGCAAGCCCATCTCGGGGGCTCAAAGTGGGGTCCGATCAG	1560	QY	2641	ATAGACGACCACTTTCCAAAAGAAAGAGGCTCGGACCGAAGAGGACTCCAAAGCTTTCC	2700
QY	1561	AAATGTAATCTCTGTTCAAAATGATTTACTACCCCTGTCAATTGTAATTTCAATCAAAAC	1620	Db	2641	ATAGACGACCACTTTCCAAAAGAAAGAGGCTCGGACCGAAGAGGACTCCAAAGCTTTCC	2700
Db	1561	AAATGTAATCTCTGTTCAAAATGATTTACTACCCCTGTCAATTGTAATTTCAATCAAAAC	1620	QY	2701	ACCTCGTCAGACCGGAAGCTGGACCCAGCGGATCCAGCAGCTGCAAAATCCAGCCCAA	2760
QY	1621	ATGTGTGTGGTGGATGGGAATTTCCACGACCTTTGAACACCCAGCAGCCGCTGGAGAC	1680	Db	2701	ACCTCGTCAGACCGGAAGCTGGACCCAGCGGATCCAGCAGCTGCAAAATCCAGCCCAA	2760
Db	1621	ATGTGTGTGGTGGATGGGAATTTCCACGACCTTTGAACACCCAGCAGCCGCTGGAGAC	1680	QY	2761	CCAGCCTCAAGTTTGGGAGCTGATACAAATGCTCGGGAGGTGGCGGCCCAATGGGCGAC	2820
QY	1681	CGCATGTTCAAAATTTGAATCTGAATAGCGGCTCCCGCAGATTTTGGCAAGATTACTAAG	1740	Db	2761	CCAGCCTCAAGTTTGGGAGCTGATACAAATGCTCGGGAGGTGGCGGCCCAATGGGCGAC	2820
Db	1681	CGCATGTTCAAAATTTGAATCTGAATAGCGGCTCCCGCAGATTTTGGCAAGATTACTAAG	1740	QY	2821	AATTAACAAAGTGGCGATGGAGTGGGCAATGCTCTGGGAGATTGGCAATTTGCAACG	2880
QY	1741	CAGGAAGTCAAGGACTTTTTTGTCTGGGCAAGGTCATCAGTGCCTGCTCACTCAGAG	1800	Db	2821	AATTAACAAAGTGGCGATGGAGTGGGCAATGCTCTGGGAGATTGGCAATTTGCAACG	2880
Db	1741	CAGGAAGTCAAGGACTTTTTTGTCTGGGCAAGGTCATCAGTGCCTGCTCACTCAGAG	1800	QY	2881	TGGATGGGGACAGAGTCTGTCACCAAGTCCACCCGAACCTTGGTGTCTGCCAGCTACAC	2940
QY	1801	TTTAAAGTCCAGGGAATTTGGCGGAATTAAGGGGCGGAGAAATCTCTAAAGCGCCCA	1860	Db	2881	TGGATGGGGACAGAGTCTGTCACCAAGTCCACCCGAACCTTGGTGTCTGCCAGCTACAC	2940
Db	1801	TTTAAAGTCCAGGGAATTTGGCGGAATTAAGGGGCGGAGAAATCTCTAAAGCGCCCA	1860	QY	2941	AACCAACAGTACCCGAGAGATCAAAAGCGGCTCCGTTCGACGGAAGCAACGCCAAGCCTAC	3000
QY	1861	CTGGGTGACGTCACAATATCTAGCTATAAAAGTCTGGAGAGCGCGGACGCTCTCATTT	1920	Db	2941	AACCAACAGTACCCGAGAGATCAAAAGCGGCTCCGTTCGACGGAAGCAACGCCAAGCCTAC	3000
Db	1861	CTGGGTGACGTCACAATATCTAGCTATAAAAGTCTGGAGAGCGCGGACGCTCTCATTT	1920	QY	3001	TTTGGATACAGCACCCCTCGGGGTACTTTGACTTTTAAACCGCTTCCACAGCACTGGAGC	3060
QY	1921	GTTCGCCGAGCGCTCCGAGTTCAGAGCTGACTGTTGATCCGCTCCTCTCGGACCGCTC	1980	Db	3001	TTTGGATACAGCACCCCTCGGGGTACTTTGACTTTTAAACCGCTTCCACAGCACTGGAGC	3060
Db	1921	GTTCGCCGAGCGCTCCGAGTTCAGAGCTGACTGTTGATCCGCTCCTCTCGGACCGCTC	1980	QY	3061	CCCGGAGCTGGGAAAGACTCATCAACAACTACTGGGGCTTCAGACCCCGGTCTCCTCAGA	3120
QY	1981	AATTTGAATTCAGGTATGATTTGCAATATGACTATCATGCTCAATTTGACAACTTTCT	2040	Db	3061	CCCGGAGCTGGGAAAGACTCATCAACAACTACTGGGGCTTCAGACCCCGGTCTCCTCAGA	3120
Db	1981	AATTTGAATTCAGGTATGATTTGCAATATGACTATCATGCTCAATTTGACAACTTTCT	2040	QY	3121	GTCAAAATCTTCAACATTTCAAGTCAAGTCAAGAGGTCAAGTGCAGGACTCCACCCACCATC	3180
QY	2041	AACAAATGTGATGATGTAATTTGAAATCGGGGCAAAATGATGATCTGTCACAAT	2100	Db	3121	GTCAAAATCTTCAACATTTCAAGTCAAGTCAAGAGGTCAAGTGCAGGACTCCACCCACCATC	3180
Db	2041	AACAAATGTGATGATGTAATTTGAAATCGGGGCAAAATGATGATCTGTCACAAT	2100	QY	3181	GCACAACTCTACCTCCACCGTCCAAAGTGTTTACGGAACGACTACAGCTGCCCTAC	3240
QY	2101	GTAACTCACTGTCAAAATTTGTCTAGGATTTCCCGCTGGGAAAGGAAACTTGTAGAT	2160	Db	3181	GCACAACTCTACCTCCACCGTCCAAAGTGTTTACGGAACGACTACAGCTGCCCTAC	3240
Db	2101	GTAACTCACTGTCAAAATTTGTCTAGGATTTCCCGCTGGGAAAGGAAACTTGTAGAT	2160	QY	3241	GTCTGGCAACCGGACCGGAGGATGCTCCCGGCTTCCCTCGGAGGTCTTTACGCTG	3300
QY	2161	TTTGGGATTTGACGATGCAATAAAGAAACAGTAATAAAGCAGTAGTCAATCTTTT	2220	Db	3241	GTCTGGCAACCGGACCGGAGGATGCTCCCGGCTTCCCTCGGAGGTCTTTACGCTG	3300
Db	2161	TTTGGGATTTGACGATGCAATAAAGAAACAGTAATAAAGCAGTAGTCAATCTTTT	2220	QY	3301	CCGAGTACCGGTTACCGGACGCTGAAACCGGCAACACACAGAAATCCACCGAGAGGAGC	3360
QY	2221	GTGTATCACCTCCAGATTGGTGGAGAGAGTTGGTGAAGTCTTCCGAGTTTGGGC	2280	Db	3301	CCGAGTACCGGTTACCGGACGCTGAAACCGGCAACACACAGAAATCCACCGAGAGGAGC	3360
Db	2221	GTGTATCACCTCCAGATTGGTGGAGAGAGTTGGTGAAGTCTTCCGAGTTTGGGC	2280	QY	3361	AGCTTCTTCTGCTAGATGATCTTTCCAGCAAGATGCTGAGAACCGGCAACAACTTTGAG	3420
QY	2281	CTTGAAGCGGGCCACCGAAACCAAAACCAATCAGCAGCATCAAGATCAAGCCGTTGT	2340	Db	3361	AGCTTCTTCTGCTAGATGATCTTTCCAGCAAGATGCTGAGAACCGGCAACAACTTTGAG	3420
Db	2281	CTTGAAGCGGGCCACCGAAACCAAAACCAATCAGCAGCATCAAGATCAAGCCGTTGT	2340	QY	3421	TTTACTCTACAACTTTTCAGGAGGTGCTTCCACTCCAGCTTCCCTCCAGTCAAGACCTG	3480
QY	2341	CTTGTGCTGCTGGTTATACTATCTCGACCCGGAACCGGTCTCGATCAGGAGAGCCT	2400	Db	3421	TTTACTCTACAACTTTTCAGGAGGTGCTTCCACTCCAGCTTCCCTCCAGTCAAGACCTG	3480
Db	2341	CTTGTGCTGCTGGTTATACTATCTCGACCCGGAACCGGTCTCGATCAGGAGAGCCT	2400	QY	3481	TTCAAGCTGCGCAACCGCTTCCAGCAAGATGCTGAGAACCGGCAACAACTTTGAG	3540
QY	2401	GTCAACAGGCGACAGAGGTGCGGAGAGCAGACGATCTCTGTAACAGCAGCTTTGAG	2460	Db	3481	TTCAAGCTGCGCAACCGCTTCCAGCAAGATGCTGAGAACCGGCAACAACTTTGAG	3540
Db	2401	GTCAACAGGCGACAGAGGTGCGGAGAGCAGACGATCTCTGTAACAGCAGCTTTGAG	2460	QY	3541	ACTGGCGAGTCCAGTTCAACAAAGACCTGGCGGAGATACGCCAACCTTCAAAAAAC	3600
QY	2461	GCAGGAGACCAACCTTACCTCAAGTACCAACCGGAGCCGCGGTTTCAAGGAGAGCTC	2520	Db	3541	ACTGGCGAGTCCAGTTCAACAAAGACCTGGCGGAGATACGCCAACCTTCAAAAAAC	3600
Db	2461	GCAGGAGACCAACCTTACCTCAAGTACCAACCGGAGCCGCGGTTTCAAGGAGAGCTC	2520	QY	3601	TGCTTCCCGGGCCCATGGCGGACCCAGGCTGGAACTTGGGCTTCGGGGTCAACCGC	3660
QY	2521	GCAGGAGACCACTCTTTCGGGGGAAACCTCGGAAAGGCACTTTTTCAGGCGCAAGAAAGG	2580	Db	3601	TGCTTCCCGGGCCCATGGCGGACCCAGGCTGGAACTTGGGCTTCGGGGTCAACCGC	3660
Db	2521	GCAGGAGACCACTCTTTCGGGGGAAACCTCGGAAAGGCACTTTTTCAGGCGCAAGAAAGG	2580	QY	3661	GCCAGTGTTCAGGCGCTTCCGCCACGACCAATAGATTCAGGCTCGAGGCGGAGTTACCG	3720
QY	2581	GTTCTCGAACCTTTTGGCTGGTTGAAGAGGTGTGAAGACGGCCCTTACCGGAAAGCGG	2640				

QY 66 AGCTGCCAGACACGGCCCTCTGGCGTCCGCCCCCAAAACGAGCGAGCGAGCGAA 125
DB 61 AGCTGCCAGACACGGCCCTCTGGCGTCCGCCCCCAAAACGAGCGAGCGAGCGAA 120
QY 126 CCGCAGACGGGGGAGAGTCCACACTCTCAAGCAGAGGGGTTTGTAGCAGTGAATGCA 185
DB 121 CCGCAGACGGGGGAGAGTCCACACTCTCAAGCAGAGGGGTTTGTAGCAGTGAATGCA 180
QY 186 TAATGATGTAATGCTTATGTCACGATAGTAAATGATTAACAGTCAATGATGTTT 245
DB 181 TAATGATGTAATGCTTATGTCACGATAGTAAATGATTAACAGTCAATGATGTTT 240
QY 246 TATCCAAATAGGAAGAAAGCGCGTATGAGTCTCCGAGACTTCCGGGGTATAAAGAC 305
DB 241 TATCCAAATAGGAAGAAAGCGCGTATGAGTCTCCGAGACTTCCGGGGTATAAAGAC 300
QY 306 CGAGTGAACGAGCCCGCGCATCTTTGCTGCACTGCTAGAGGACCTCGCTGCCAT 365
DB 301 CGAGTGAACGAGCCCGCGCATCTTTGCTGCACTGCTAGAGGACCTCGCTGCCAT 360
QY 366 GGCTACCTTCTATGAAGTCAATGTTTCGGTCCCATTTGACGTGAGGAACATCTGCCTGG 425
DB 361 GGCTACCTTCTATGAAGTCAATGTTTCGGTCCCATTTGACGTGAGGAACATCTGCCTGG 420
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RESULT 5

AY388617
LOCUS AY388617 4693 bp DNA circular VRL 25-MAY-2004
DEFINITION Bovine adeno-associated virus, complete genome.
ACCESSION AY388617
VERSION AY388617.1 GI:38679253
KEYWORDS
SOURCE Bovine adeno-associated virus
ORGANISM Bovine adeno-associated virus
REFERENCE 1 (bases 1 to 4693)
Virus; ssDNA viruses; Parvoviridae; Parvovirinae; Dependovirus.
AUTHORS Schmidt, M., Katano, H., Bossis, I. and Chiorini, J. A.
TITLE Cloning and Characterization of a Bovine Adeno-Associated Virus
JOURNAL J. Virol. 78 (12), 6509-6516 (2004)
REFERENCE 2 (bases 1 to 4693)
AUTHORS Schmidt, M., Bossis, I. and Chiorini, J. A.
TITLE Direct Submission
JOURNAL Submitted (11-SEP-2003) NIDCR, NIH, 9000 Rockville Pike 10/1N112, Bethesda, MD 20892, USA

FEATURES

Source
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gene

CDS

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Db	602	GTGCAGTTTGAAGAAGGATCTGAATATTTTTCATCTGCAACACGCTGTGTGAGAGACTCCGCG	661
Qy	658	ATCTCTTCCATGTCTTCCGCGCTACGTGAGTCAATTCGCGCCAGCTGTGTGAAGTG	717
Db	662	ATCTCTTCTTATGTGTCTTGGCGCTACGTGAGTCAATTCGCGCCAGCTGTGTGAAGTG	721
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Query Match	59.5%;	Score	2766;	DB	14;	Length	4693;		
Best Local Similarity	76.6%;	Pred.	No. 0;	Mismatches	1030;	Indels	72;	Gaps	15;
Matches	3606;	Conservative	0;						
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ORIGIN									
Query Match	59.5%;	Score	2766;	DB	14;	Length	4693;		
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Matches	3606;	Conservative	0;						

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SOURCE synthetic construct
ORGANISM synthetic construct
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AUTHORS Chiorini, J.A., Kotin, R.M., Davidson, B. and Zabner, J.
TITLE Aav5 vector for transducing brain cells and lung cells
JOURNAL Patent: WO 0170276-A 7 27-SEP-2001;
The Secretary, Department of Health and Human Services (US);
University of Iowa Research Foundation (US)
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ORIGIN

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Db	1405	ACTTGTACCGCTTCGTGAGCACAAATAACACTGGCGGAGTCCAGTTCAACAAGAACCTGG	1464
Qy	3572	CGGGAGATAGCCACACCTACAAAAACTGTTCCGGGGGCCATAGGSCCGAACCCAGG	3631
Db	1465	CGGGAGATAGCCACACCTACAAAAACTGTTCCGGGGGCCATAGGSCCGAACCCAGG	1524
Qy	3632	GCTGGAACTTGGGCTCCGGGGTCAACCGCGCCAGTGTCAAGCGCTTCGCAACGACAAATA	3691
Db	1525	GCTGGAACTTGGGCTCCGGGGTCAACCGCGCCAGTGTCAAGCGCTTCGCAACGACAAATA	1584
Qy	3692	GGATGGAGTTCGAGGGCGGAGTTTACAGGTGCCCGCGCAGCCGAAACGGCATGACCAACA	3751
Db	1585	GGATGGAGTTCGAGGGCGGAGTTTACAGGTGCCCGCGCAGCCGAAACGGCATGACCAACA	1644
Qy	3752	ACCTCCAGGGCAGCAACCACTATGTCCTGAGAACTATGATCTTCAACAGCAGCAGCCGG	3811
Db	1645	ACCTCCAGGGCAGCAACCACTATGTCCTGAGAACTATGATCTTCAACAGCAGCAGCCGG	1704
Qy	3812	CGAACCCGGGCAACCGCCGACGTGTAACAGTTCGGCGGCGAGATGGCCACCAACAACC	3931
Db	1705	CGAACCCGGGCAACCGCCGACGTGTAACAGTTCGGCGGCGAGATGGCCACCAACAACC	1764
Qy	3872	AGACGACGCGGTCAACCGGTGGCGTACAAAGTTCGGCGGCGAGATGGCCACCAACAACC	3931
Db	1765	AGACGACGCGGTGAAACCGGTGGCGTACAAAGTTCGGCGGCGAGATGGCCACCAACAACC	1824
Qy	3932	AGAGCTCCACCACTGCCCGCGACCGTACAACTCCAGGAAATCGTCCCGCGCA	3991
Db	1825	AGAGCTCCACCACTGCCCGCGACCGTACAACTCCAGGAAATCGTCCCGCGCA	1884
Qy	3992	CGGTGTGATGGAGGGAAGTGTACCTCAAGGACCCATCTGGCCCAAGTCCGAGAGA	4051
Db	1885	CGGTGTGATGGAGGGAAGTGTACCTCAAGGACCCATCTGGCCCAAGTCCGAGAGA	1944
Qy	4052	CGGGGGGCACCTTTCACCCCTCTCCGGCCATGGCGGATTCGGACTCAAAACCCACCCG	4111
Db	1945	CGGGGGGCACCTTTCACCCCTCTCCGGCCATGGCGGATTCGGACTCAAAACCCACCCG	2004
Qy	4112	CCATGATGCTCATCAAGAACAGCCTGTGCGCGGAAATATCAACAGTTCTCGAGCTGC	4171
Db	2005	CCATGATGCTCATCAAGAACAGCCTGTGCGCGGAAATATCAACAGTTCTCGAGCTGC	2064
Qy	4172	CCGTACAGAGCTTCATCACCCAGTACAGCACCGGGCAGGTACCGTGGAGATGGAGTGG	4231
Db	2065	CCGTACAGAGCTTCATCACCCAGTACAGCACCGGGCAGGTACCGTGGAGATGGAGTGG	2124
Qy	4232	AGCTCAAGAAGAAACTCCAAAGAGTGGAAACCCAGAGATCCAGTACAAAACAACTTACA	4291
Db	2125	AGCTCAAGAAGAAACTCCAAAGAGTGGAAACCCAGAGATCCAGTACAAAACAACTTACA	2184
Qy	4292	ACGACCCCGAGTTGTGACCTTTCGCCCGGACAGCAGCGGGGATACAGAACCCACGAG	4351
Db	2185	ACGACCCCGAGTTGTGACCTTTCGCCCGGACAGCAGCGGGGATACAGAACCCACGAG	2244
Qy	4352	CTATCGGAACCCGATACCTTACCCGACCCCTTTAACCCATTTCATGTCCGATACCTCAAT	4411
Db	2245	CTATCGGAACCCGATACCTTACCCGACCCCTTTAACCCATTTCATGTCCGATACCTCAAT	2304
Qy	4412	AAA 4414	
Db	2305	AAA 2307	

RESULT 8				
BD211183				
LOCUS	BD211183	2264 bp	DNA	linear
DEFINITION	AAV5 vector and uses thereof.			
ACCESSION	BD211183			

VERSION	BD211183.1	GI:33020953
KEYWORDS	JP 2002516092-A/3	
SOURCE	synthetic construct	
ORGANISM	synthetic construct	
REFERENCE	1 (bases 1 to 2264)	
AUTHORS	Chlorini, J.A. and Kotin, R.M.	
TITLE	AAV5 vector and uses thereof	
JOURNAL	Patent: JP 2002516092-A 3 04-JUN-2002;	
COMMENT	THE UNITED STATES OF AMERICA	
PN	OS Artificial Sequence	
PD	JP 2002516092-A/3	
PF	04-JUN-2002	
PR	28-MAY-1999 JP 2000550986	
PI	28-MAY-1998 US 60/087029	
PC	JOHN A CHIORINI, ROBERT M KOTIN	
	CL12N15/09, C07K14/015, C07K16/08, C12N7/00, C12Q1/68, G01N33/15, PC	
	G01N33/50,	
CC	CL12N15/00	
CC	Description of Artificial Sequence: Note = synthetic construct	
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FT	1..2264	
FEATURES	Location/Qualifiers	
source	1..2264	
	/organism="synthetic construct"	
	/mol_type="genomic DNA"	
ORIGIN	/db_xref="taxon:32630"	
Query Match	46.9%; Score 2181.4; DB 6; Length 2264;	
Best Local Similarity	100.0%; Pred. No. 0;	
Matches 2182; Conservative	0; Mismatches 1; Indels 0; Gaps 0;	
QY	2232	TCCAGATTGTTGGAAGTGTGTTGAGTCTTCGGAGTTTGGCCCTTGAAGCGG 2291
DB	82	TCAAGTTGTTGGAAGTGTGTTGAGTCTTCGGAGTTTGGCCCTTGAAGCGG 141
QY	2292	CCACCGAAACCAAAACCAATCAGCAGCATCAAGATCAAGCCGTTGTTGCTGCC 2351
DB	142	CCACCGAAACCAAAACCAATCAGCAGCATCAAGATCAAGCCGTTGTTGCTGCC 201
QY	2352	TGTTTAACTATCTCGGACCGGAAACCGTCTCGATCGAGGAGCCTGTCAACAGGGC 2411
DB	202	TGTTTAACTATCTCGGACCGGAAACCGTCTCGATCGAGGAGCCTGTCAACAGGGC 261
QY	2412	AGACGAGTCTCGGAGGACGACGACATCTCGTACAAAGAGGAGTCTGACAGGGC 2471
DB	262	AGACGAGTCTCGGAGGACGACGACATCTCGTACAAAGAGGAGTCTGACAGGGC 321
QY	2472	CCCTTACCTCAAGTACAAACCGGAGCGGAGTCTTCAAGAGAGTCTCGGAGGAC 2531
DB	322	CCCTTACCTCAAGTACAAACCGGAGCGGAGTCTTCAAGAGAGTCTCGGAGGAC 381
QY	2532	ATCTTTCGGGGAAACCTCGGAAAGGAGTCTTTCAGGCCCAAGAAAGGTTCTCGAAC 2591
DB	382	ATCTTTCGGGGAAACCTCGGAAAGGAGTCTTTCAGGCCCAAGAAAGGTTCTCGAAC 441
QY	2592	TTTTCGCTGTTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 2651
DB	442	TTTTCGCTGTTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 501
QY	2652	CTTTTCAAAAGAAAGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 2711
DB	502	CTTTTCAAAAGAAAGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 561
QY	2712	CGCGAAGTGGACCGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 2771
DB	562	CGCGAAGTGGACCGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 621
QY	2772	TTTTCGCTGTTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 2831
DB	622	TTTTCGCTGTTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAGTCTGAGAGGAG 681
QY	2832	TGCGATGAGTGGGCAATGCTCGGAGATTGGCAATTGGATTTCAGTTCAGTGGGGA 2891
DB	682	TGCGATGAGTGGGCAATGCTCGGAGATTGGCAATTGGATTTCAGTTCAGTGGGGA 741
QY	2892	CAGATGCTGACCAAGTCCACCCGAACTGGTGTGCTGCCAGCTACAAACACCAAGTA 2951
DB	742	CAGATGCTGACCAAGTCCACCCGAACTGGTGTGCTGCCAGCTACAAACACCAAGTA 801
QY	2952	CGGAGATCAAAAAGCGGCTCCGTGCGAGGAGCAACGCCAAGCTACTTTGGATACAG 3011
DB	802	CGGAGATCAAAAAGCGGCTCCGTGCGAGGAGCAACGCCAAGCTACTTTGGATACAG 861
QY	3012	CACCCCTGGGGTACTTTGACTTTAACCGTTCACAGCAGTGGAGCCCGGAGATG 3071
DB	862	CACCCCTGGGGTACTTTGACTTTAACCGTTCACAGCAGTGGAGCCCGGAGATG 921
QY	3072	GCAAGACTCATCAAACTACTGGGGCTTCAGAGCCCGGCTCCCTCAGAGTCAAAATCT 3131
DB	922	GCAAGACTCATCAAACTACTGGGGCTTCAGAGCCCGGCTCCCTCAGAGTCAAAATCT 981
QY	3132	CAACATTCAGTCAAAAGAGTTCACGGTTCAGAGTTCACACCAACCATCGCCACACT 3191
DB	982	CAACATTCAGTCAAAAGAGTTCACGGTTCAGAGTTCACACCAACCATCGCCACACT 1041
QY	3192	CACCTCCACCGTCCAAAGTGTTCAGGAGGAGTTCACAGTCCCTTACGTCGCGGAA 3251
DB	1042	CACCTCCACCGTCCAAAGTGTTCAGGAGGAGTTCACAGTCCCTTACGTCGCGGAA 1101
QY	3252	CGGACCGAGGATGCTTCGGGGCTTCCTTCGGAGTCTTTACGTCGCGGAGTACGG 3311
DB	1102	CGGACCGAGGATGCTTCGGGGCTTCCTTCGGAGTCTTTACGTCGCGGAGTACGG 1161
QY	3312	TTACGCAAGTGTGAAACCGGCAACACAGAAATCCACCGAGGAGGAGTCTTCTCTG 3371
DB	1162	TTACGCAAGTGTGAAACCGGCAACACAGAAATCCACCGAGGAGGAGTCTTCTCTG 1221
QY	3372	CCTAGACTTCTTCCAGAGAGTGTGAGAACCGGCAACAACTTTGAGTTTACCTCAA 1281
DB	1222	CCTAGACTTCTTCCAGAGAGTGTGAGAACCGGCAACAACTTTGAGTTTACCTCAA 1281
QY	3432	CTTTGAGAGGAGTGGCTTCCACTTCAGTTCGCTCCAGTTCAGAACCTGTTCAAGCTGGC 3491
DB	1282	CTTTGAGAGGAGTGGCTTCCACTTCAGTTCGCTCCAGTTCAGAACCTGTTCAAGCTGGC 1341
QY	3492	CAACCCGCTGGTGGACAGTACTTGTACCGCTTCGTGAGCAACAACTTCGCGGAGT 3551
DB	1342	CAACCCGCTGGTGGACAGTACTTGTACCGCTTCGTGAGCAACAACTTCGCGGAGT 1401
QY	3552	CCAGTTTCAACAGAACTTGGCCGGAGATACGGCAACCTTCAAAACTGGTTCCCGGG 3611
DB	1402	CCAGTTTCAACAGAACTTGGCCGGAGATACGGCAACCTTCAAAACTGGTTCCCGGG 1461
QY	3612	GCCCATGGGCGGAAACCCAGGCTGGAACCTCGGGCTCGGGGTCAACCGCCAGTGTGAG 3671
DB	1462	GCCCATGGGCGGAAACCCAGGCTGGAACCTCGGGCTCGGGGTCAACCGCCAGTGTGAG 1521
QY	3672	CGCTTTCGCGCAACCAATAGGATGAGTTCGAGGCGCGAGTTTACAGGTGCCCCCGCA 3731
DB	1522	CGCTTTCGCGCAACCAATAGGATGAGTTCGAGGCGCGAGTTTACAGGTGCCCCCGCA 1581
QY	3732	GCCGAAGCGGATGACCAACCTTCAGGCGGAGTTCAGGCGGAGTTCAGGCGGAGTAT 3791
DB	1582	GCCGAAGCGGATGACCAACCTTCAGGCGGAGTTCAGGCGGAGTTCAGGCGGAGTAT 1641
QY	3792	GATCTTCAACAGCGGAGTTCAGGCGGAGTTCAGGCGGAGTTCAGGCGGAGTAT 3851
DB	1642	GATCTTCAACAGCGGAGTTCAGGCGGAGTTCAGGCGGAGTTCAGGCGGAGTAT 1701
QY	3852	GCTCATCACCGAGGAGGAGTTCAGGCGGAGTTCAGGCGGAGTTCAGGCGGAGTAT 3911
DB	1702	GCTCATCACCGAGGAGGAGTTCAGGCGGAGTTCAGGCGGAGTTCAGGCGGAGTAT 1761

3912 GCAGATGGCCACCAACACAGAGCTCCACACTGCCCCCGGACCGGACAGTACAACT 3971
Db 1762 GCAGATGGCCACCAACACAGAGCTCCACACTGCCCCCGGACCGGACAGTACAACT 1821
QY 3972 CCAGGAAATCGTGCCCGGAGCGTGTGGATGGAGAGGACGTGTACCTCCAGGACCCAT 4031
Db 1822 CCAGGAAATCGTGCCCGGAGCGTGTGGATGGAGAGGACGTGTACCTCCAGGACCCAT 1881
QY 4032 CTGGGCGAAGATCCAGAGACGGGGCGCACTTTCACCCCTCTCCGGCCATGGCGGATT 4091
Db 1882 CTGGGCGAAGATCCAGAGACGGGGCGCACTTTCACCCCTCTCCGGCCATGGCGGATT 1941
QY 4092 CGGACTCAAAACACCCACCGCCATGCTCATCAAGAACACGCTGTGCCCGGAATAT 4151
Db 1942 CGGACTCAAAACACCCACCGCCATGCTCATCAAGAACACGCTGTGCCCGGAATAT 2001
QY 4152 CACCACTTCTCGGACGTGCGCCGTACGAGCTTCATCACCAGTACAGCACCGGAGGT 4211
Db 2002 CACCACTTCTCGGACGTGCGCCGTACGAGCTTCATCACCAGTACAGCACCGGAGGT 2061
QY 4212 CACCGTGGAGTGGAGTGGAGCTCAAGAGGAAACTCCAGAGGTGGAACCCAGAGAT 4271
Db 2062 CACCGTGGAGTGGAGTGGAGCTCAAGAGGAAACTCCAGAGGTGGAACCCAGAGAT 2121
QY 4272 CCAGTACAAACAACTACAACACCCCAAGTTTGTGGACTTTGCCCGGACAGCACCGG 4331
Db 2122 CCAGTACAAACAACTACAACACCCCAAGTTTGTGGACTTTGCCCGGACAGCACCGG 2181
QY 4332 GGAATCAGAACACACGACTTATCGGAACCCGATACCTTACCGACCCCTTAAACCCAT 4391
Db 2182 GGAATCAGAACACACGACTTATCGGAACCCGATACCTTACCGACCCCTTAAACCCAT 2241
QY 4392 TCATGTCGATACCCCTCAATAAA 4414
Db 2242 TCATGTCGATACCCCTCAATAAA 2264

RESULT 9
BD211184
LOCUS 2264 bp DNA linear PAT 17-JUL-2003
DEFINITION AAV5 vector and uses thereof.
ACCESSION BD211184
VERSION BD211184.1 GI:33020954
KEYWORDS JP 2002516092-A/4.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 2264)
AUTHORS Chiorini, J.A. and Kotin, R.M.
TITLE AAV5 vector and uses thereof
JOURNAL Patent: JP 2002516092-A 4 04-JUN-2002;
THE UNITED STATES OF AMERICA
COMMENT OS Artificial Sequence
PN JP 2002516092-A/4
PD 04-JUN-2002
PF 28-MAY-1999 JP 2000550986
PI 28-MAY-1998 US 60/087029
PI JOHN A. CHIORINI, ROBERT M. KOTIN
PC C12N15/09, C07K14/015, C07K16/08, C12N7/00, C12Q1/68, G01N33/15, PC
G01N33/50,
PC C12N15/00
CC Description of Artificial Sequence: /Note = synthetic construct
FH Key Location/Qualifiers
FT source 1..2264
FT /organism='Artificial Sequence'.
FEATURES
source 1..2264
/organism='synthetic construct'
/mol_type='genomic DNA'
/db_xref='taxon:32630'
ORIGIN
Query Match 46.9%; Score 2181.4; DB 6; Length 2264;

Best Local Similarity 100.0%; Pred. No. 0;
Matches 2182; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 2232 TCCAGATTGGTTGGAAGAAGTTGGTGAAGGTCTTCGCGAGTTTGGGCTTTGAAGCGG 2291
Db 82 TCAAGATTGGTTGGAAGAAGTTGGTGAAGGTCTTCGCGAGTTTGGGCTTTGAAGCGG 141
QY 2292 CCCACGAAACCAAAACCAATCAGAGCATCAAGATCAAGCCCGTGTCTGTGCTGCC 2351
Db 142 CCCACGAAACCAAAACCAATCAGAGCATCAAGATCAAGCCCGTGTCTGTGCTGCC 201
QY 2352 TGGTTATTAATCTCGGACCCGGAACCGTCTCGATCGAGAGACCTGTCAACAGGGC 2411
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QY 2412 AGACGAGGTGCGCGAGAGCAGCATCTCTGTACACAGAGCAGCTTGTAGCGGGAGACAA 2471
Db 262 AGACGAGGTGCGCGAGAGCAGCATCTCTGTACACAGAGCAGCTTGTAGCGGGAGACAA 321
QY 2472 CCCCTACCTCAAGTACAAACCGGACCGCGAGTTTCAAGAGAGCTCGCGACACAC 2531
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QY 2532 ATCCTTCGGGGGAAACCTCGGAAGGCGAGTCTTTCAAGGCCAAGAAAGGTTCTCGAAC 2591
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QY 2592 TTTTGGCCCTGGTTGAAGAGGGTGTAAAGACGGGCCCTACCGGAAAGCGGATAGACCA 2651
Db 442 TTTTGGCCCTGGTTGAAGAGGGTGTAAAGACGGGCCCTACCGGAAAGCGGATAGACCA 501
QY 2652 CTTTCCAAAGAAAGAGAGGCTCGGACCGAGAGGACTTCAAGCCTTCCACCTCGTCA 2711
Db 502 CTTTCCAAAGAAAGAGAGGCTCGGACCGAGAGGACTTCAAGCCTTCCACCTCGTCA 561
QY 2712 CGCGGAGCTGGACCCAGCGGATCCAGAGCTGCAAAATCCAGCCCAACACGAGCTCAAG 2771
Db 562 CGCGGAGCTGGACCCAGCGGATCCAGAGCTGCAAAATCCAGCCCAACACGAGCTCAAG 621
QY 2772 TTTTGGAGCTGTATCAATGTCTCGGAGGTGGCGGCCATTTGGGGACAAATTAACCAAG 2831
Db 622 TTTTGGAGCTGTATCAATGTCTCGGAGGTGGCGGCCATTTGGGGACAAATTAACCAAG 681
QY 2832 TGCCGATGGAGTGGGCAATGCCCTCGGAGATTGGCATTGGCATTCCACGTGGATGGGGA 2891
Db 682 TGCCGATGGAGTGGGCAATGCCCTCGGAGATTGGCATTGGCATTCCACGTGGATGGGGA 741
QY 2892 CAGAGTGTCAACCAAGTCCACCGGACCTGGGTGCTGCCAGCTTACCAACCAACCAAGTA 2951
Db 742 CAGAGTGTCAACCAAGTCCACCGGACCTGGGTGCTGCCAGCTTACCAACCAACCAAGTA 801
QY 2952 CCGAGAGATCAAAAGCGGCTCCGTTCGACGGAAGCAACCGCAACCGCTTCTTGGATCAG 3011
Db 802 CCGAGAGATCAAAAGCGGCTCCGTTCGACGGAAGCAACCGCAACCGCTTCTTGGATCAG 861
QY 3012 CACCCCTCGGGGTACTTTGATTTAACCGTCCAGAGCTTCCAGAGCTTGGAGCCCCGAGCTG 3071
Db 862 CACCCCTCGGGGTACTTTGATTTAACCGTCCAGAGCTTCCAGAGCTTGGAGCCCCGAGCTG 921
QY 3072 GCAAGACTCATCAACAACTACTGGGCTTTCAGACCCCGGTCCCTCAGAGTCAAAATCTT 3131
Db 922 GCAAGACTCATCAACAACTACTGGGCTTTCAGACCCCGGTCCCTCAGAGTCAAAATCTT 981
QY 3132 CAACATTCAAGTCAAGAGGTTCACCGTTCAGAGCTTCCACCAACCAACCAACCACT 3191
Db 982 CAACATTCAAGTCAAGAGGTTCACCGTTCAGAGCTTCCACCAACCAACCAACCACT 1041
QY 3192 CACCTCCACCGTCCAGTGTTCAGAGGAGCTTACAGTCCCTACGCTCGTGGCAA 3251
Db 1042 CACCTCCACCGTCCAGTGTTCAGAGGAGCTTACAGTCCCTACGCTCGTGGCAA 1101
QY 3252 CGGACCGAGGATGCTCGCGGCTTCCCTCCCGAGGTCTTTACGCTGCGGAGTACGG 3311

QY	2832	TGCCGATGAGTGGGCAATGCTCGGAGATTGGCAATTCGATTTCCACCTGGATGGGGA	2891	QY	3912	GCAGATGGCCCAACAAACACGAGCTCCACCTGCTCCCGCGGACCGGACGCTAACACCT	3971
Db	682	TGCCGATGAGTGGGCAATGCTCGGAGATTGGCAATTCGATTTCCACCTGGATGGGGA	741	Db	1762	GCAGATGGCCCAACAAACGAGCTCCACCTGCTCCCGCGGACCGGACGCTAACACCT	1821
QY	2892	CAGAGTCGTACCAAGTCCACCGAACTCTGGGTGCTGCCAGCTACAAACACACAGTA	2951	QY	3972	CCAGGAATTCGTCCCGGAGCGTGTGGATGAGAGGAGCTGTACTCCAGGACCCAT	4031
Db	742	CAGAGTCGTACCAAGTCCACCGAACTCTGGGTGCTGCCAGCTACAAACACACAGTA	801	Db	1822	CCAGGAATTCGTCCCGGAGCGTGTGGATGAGAGGAGCTGTACTCCAGGACCCAT	1881
QY	2952	CCGAGAGATCAAAAGCGGTCCGTCGACGGAAGCAACGCAACGCTACTTTGGATACAG	3011	QY	4032	CTGGGCCCAAGATCCCAAGACGCGGCGCAGCTTTACCCCTCTCCGCGCATGGGCGGAT	4091
Db	802	CCGAGAGATCAAAAGCGGTCCGTCGACGGAAGCAACGCAACGCTACTTTGGATACAG	861	Db	1882	CTGGGCCCAAGATCCCAAGACGCGGCGCAGCTTTACCCCTCTCCGCGCATGGGCGGAT	1941
QY	3012	CACCCCTCGGGGTACTTTGACTTTAACTTCCACAGCACTGGAGCGCCCGAGACTG	3071	QY	4092	CGGACTCAAAACACCCACCCCATGATGCTCATCAAGAACACGCTGTGCCGGAATAT	4151
Db	862	CACCCCTCGGGGTACTTTGACTTTAACTTCCACAGCACTGGAGCGCCCGAGACTG	921	Db	1942	CGGACTCAAAACACCCACCCCATGATGCTCATCAAGAACACGCTGTGCCGGAATAT	2001
QY	3072	GCAAGACTCATCAACAACTACTGGGCTTTCAGACCCCGGTCCCTCAGAGTCAAAATCT	3131	QY	4152	CACCGTTCGAGAGTGGGAGCTCAAGAGGAGAACTCCAAGAGTGAACCCAGAGAT	4211
Db	922	GCAAGACTCATCAACAACTACTGGGCTTTCAGACCCCGGTCCCTCAGAGTCAAAATCT	981	Db	2002	CACCGTTCGAGAGTGGGAGCTCAAGAGGAGAACTCCAAGAGTGAACCCAGAGAT	2061
QY	3132	CACATTTCAAGTCAAGAGGTACGCTGAGGACTCCACACCACTACGCAACACCT	3191	QY	4212	CACCGTTCGAGAGTGGGAGCTCAAGAGGAGAACTCCAAGAGTGAACCCAGAGAT	4271
Db	982	CACATTTCAAGTCAAGAGGTACGCTGAGGACTCCACACCACTACGCAACACCT	1041	Db	2062	CACCGTTCGAGAGTGGGAGCTCAAGAGGAGAACTCCAAGAGTGAACCCAGAGAT	2121
QY	3192	CACCTCCACCGTCCAAAGTGTTCAGGACGACGACTACAGCTGCCCTACGTCGCGCAA	3251	QY	4272	CCAGTACACAAACAACTACAAACGACCCCGAGTTTGGAGCTTTGCCCGGACGACCGG	4331
Db	1042	CACCTCCACCGTCCAAAGTGTTCAGGACGACGACTACAGCTGCCCTACGTCGCGCAA	1101	Db	2122	CCAGTACACAAACAACTACAAACGACCCCGAGTTTGGAGCTTTGCCCGGACGACCGG	2181
QY	3252	CGGACCGAGGATGCTCGCGCTTCCCTCGCAGGTTTTCAGCTGCCCGAGTACGG	3311	QY	4332	GGATACAGAACACACGACCTATCGGAACCCGATACCTTACCGACCCCTTTAACCCAT	4391
Db	1102	CGGACCGAGGATGCTCGCGCTTCCCTCGCAGGTTTTCAGCTGCCCGAGTACGG	1161	Db	2182	GGATACAGAACACACGACCTATCGGAACCCGATACCTTACCGACCCCTTTAACCCAT	2241
QY	3312	TTACGCGAGCTGAAACCGGACACACAGAAATCCACCGGAGGAGGAGCTTCTCTG	3371	QY	4392	TCATGTCGCATACCTTCAATAA 4414	
Db	1162	TTACGCGAGCTGAAACCGGACACACAGAAATCCACCGGAGGAGGAGCTTCTCTG	1221	Db	2242	TCATGTCGCATACCTTCAATAA 2264	
QY	3372	CCTAGAGTACTTCCAGCAAGATGCTTGAAACGGGCAACAACTTTGAGTTTACCTACAA	3431	RESULT 11			
Db	1222	CCTAGAGTACTTCCAGCAAGATGCTTGAAACGGGCAACAACTTTGAGTTTACCTACAA	1281	AX256329	Sequence 9 from Patent WO0170276.	2264 bp	DNA linear PAT 10-OCT-2001
QY	3432	CTTTGAGGAGTGCCTTCCACTCCAGCTTCCGTCGAGTCAGAACTGTTCAAGTGGC	3491	DEFINITION			
Db	1282	CTTTGAGGAGTGCCTTCCACTCCAGCTTCCGTCGAGTCAGAACTGTTCAAGTGGC	1341	AX256329	AX256329.1 GI:16075186		
QY	3492	CAACCCGCTGGTGGACAGTACTGTACCGCTTCGTGAGCACAATAAACAACGCGAGT	3551	VERSION			
Db	1342	CAACCCGCTGGTGGACAGTACTGTACCGCTTCGTGAGCACAATAAACAACGCGAGT	1401	KEYWORDS	synthetic construct		
QY	3552	CCAGTTCAACAAAGAACCTGGCCGGGAGATACGCCAACACCTACAAAACTGGTTCCCGGG	3611	SOURCE	synthetic construct		
Db	1402	CCAGTTCAACAAAGAACCTGGCCGGGAGATACGCCAACACCTACAAAACTGGTTCCCGGG	1461	ORGANISM	artificial sequences.		
QY	3612	GCCATGGGCGGAAACCCAGGGCTGGAACTGGGCTCCGGGTCACCGCGCAGTGTACG	3671	REFERENCE			
Db	1462	GCCATGGGCGGAAACCCAGGGCTGGAACTGGGCTCCGGGTCACCGCGCAGTGTACG	1521	AUTHORS	Chiorini, J.A., Kotin, R.M., Davidson, B. and Zabner, J.		
QY	3672	CGCTTCGCGACCAACCAATAGGATGAGCTCGAGGGCGGAGTTTACAGGTGCCCGGCA	3731	TITLE	Aav5 vector for transducing brain cells and lung cells		
Db	1522	CGCTTCGCGACCAACCAATAGGATGAGCTCGAGGGCGGAGTTTACAGGTGCCCGGCA	1581	JOURNAL	Patent: WO 0170276-A 9 27-SEP-2001;		
QY	3732	GCCGAACGGATGATCAACAACTCCAGGGCAGCAACACCTATGCCCTGGAGAACATAT	3791		The Secretary, Department of Health and Human Services (US);		
Db	1582	GCCGAACGGATGATCAACAACTCCAGGGCAGCAACACCTATGCCCTGGAGAACATAT	1641		University of Iowa Research Foundation (US)		
QY	3792	GATCTTCAACAGCCAGCGGGAACCGGGCAGCACCGCCACGCTACCTCGAGGCAACAT	3851	FEATURES	Location/Qualifiers		
Db	1642	GATCTTCAACAGCCAGCGGGAACCGGGCAGCACCGCCACGCTACCTCGAGGCAACAT	1701	source	1. .2264		
QY	3852	GCTCATCAACAGGAGGAGAGACGCGCGGTGAACCGGTGAGCGGTACAAACGTCGCGG	3911		/organism="synthetic construct"		
Db	1702	GCTCATCAACAGGAGGAGAGACGCGCGGTGAACCGGTGAGCGGTACAAACGTCGCGG	1761		/mol type="unassigned DNA"		
					/db xref="taxon:32630"		
					/note="Note = synthetic construct"		
				ORIGIN			
				Query Match	46.9%;	Score 2181.4;	DB 6; Length 2264;
				Best Local Similarity	100.0%;	Pred. No. 0;	
				Matches 2182;	Conservative 0;	Mismatches 1;	Indels 0; Gaps 0;
QY	2232	TCAGATTTGTTGGAAGAAGTGTGTGAAGTCTTCGCGAGTTTTCGGGCTTGAAGCGG	2291				
Db	82	TCAGATTTGTTGGAAGAAGTGTGTGAAGTCTTCGCGAGTTTTCGGGCTTGAAGCGG	141				
QY	2292	CCCACCGAAACCAAAACCCCAATCAGACGATCAAGATCAAGCCCGTGTCTTGTGCTGCC	2351				
Db	142	CCCACCGAAACCAAAACCCCAATCAGACGATCAAGATCAAGCCCGTGTCTTGTGCTGCC	201				

QY	2352	TGTTTAACTATCTCGAACCGGAAACGGTCTCGATCGAGGAGAGCCTGTCAACAGGGC	2411
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QY	2532	ATCCTTCGGGGAAACCTCGGAAAGGCAGTCTTTTCAGGCCAAGAAAAAGGTTCTCGAACC	2591
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QY	3132	CAACATTCAGTCAAGTCAGAGTTCAGGTGAGGACTCCACACACCAATTCGCCAACAACCT	3191
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QY	3192	CACCTCCACCGTCCAAGTGTTCAGGACGACGACTACACAGTCGCCCTACGCTCGTGGCAA	3251
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2182	Db	GGAATACAGAAACACACAGACTCTACGAAACCCGATACCTTACCCGACCCCTTTAAACCCAT	2241
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BD211186
LOCUS
DEFINITION
ACCESSION

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VERSION      BD211186.1  GI:33020956
KEYWORDS     JP 2002516092-A/6.
SOURCE       synthetic construct
ORGANISM     synthetic construct
REFERENCE    1 (bases 1 to 1870)
AUTHORS      Chlorini, J.A. and Kotin, R.M.
TITLE        AAV5 vector and uses thereof
JOURNAL      Patent: JP 2002516092-A 6 04-JUN-2002;
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COMMENT      OS Artificial Sequence
              EN JP 2002516092-A/6
              PD 04-JUN-2002
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              PI JOHN A CHLORINI, ROBERT M KOTIN
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 DEFINITION Sequence 11 from Patent WO0170276.
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 VERSION AX256331.1 GI:16075188
 KEYWORDS synthetic construct
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 ORGANISM synthetic construct
 REFERENCE 1
 AUTHORS Chlorini, J. A., Kotin, R. M., Davidson, B. and Zabner, J.
 TITLE Aav5 vector for transducing brain cells and lung cells
 JOURNAL Patent: WO 0170276-A 11 27-SEP-2001;
 The Secretary, Department of Health and Human Services (US);
 University of Iowa Research Foundation (US)
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 Best Local Similarity 100.0%; Pred. No. 0;
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DEFINITION Sequence 22 from Patent WO0206653.
ACCESSION AX703460
VERSION AX703460.1 GI:29539437
KEYWORDS
SOURCE Adeno-associated virus 5
ORGANISM Adeno-associated virus 5
REFERENCE 1
AUTHORS Li, M. and Liu, Y. C.
TITLE Prokaryotic libraries and uses
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QY 484 TCAGATTTAAATTTGACTCTGTTGACAGCCTCAGTTGACCGTGGCTGATGAAATTCG 543
Db 121 TCAGATTTAAATTTGACTCTGTTGACAGCCTCAGTTGACCGTGGCTGATGAAATTCG 180
QY 544 CGCGTGTCTCTACGAGTGGAAATTTTCCAGCAGAGGTCCAAATTTCTTTGTGCGAG 603

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Db 181 CGGCTGTTCTGTACAGTGGGAACAAATTTTCCAGCAGAGTCCAAATTTCTTTGTGCGAG 240
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QY 724 CAGGGAATTTGAACCCAGATCAACGACTGGGTGCGCATCACCAAGTAAAGAGGGCGGA 783
Db 361 CAGGGAATTTGAACCCAGATCAACGACTGGGTGCGCATCACCAAGTAAAGAGGGCGGA 420
QY 784 GCCAATAAGGTGGTGGATTTCTGGGTATATTTCCCGCTACTCTGCGCAAGGTCCAAACG 843
Db 421 GCCAATAAGGTGGTGGATTTCTGGGTATATTTCCCGCTACTCTGCGCAAGGTCCAAACG 480
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QY 1864 GGTGACGTACCAATACTAGCTATAAAGTCTGGAGAGCGGGCCAGGCTCTCATTTGTT 1923
Db 1501 GGTGACGTACCAATACTAGCTATAAAGTCTGGAGAGCGGGCCAGGCTCTCATTTGTT 1560
QY 1924 CCGGAGACGCTCGGAGTTTCAGACGTGACTGTTGATCCCGCTCCTCTGGACCGCTCAAT 1983
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QY 2044 AAATGTGATGAATGTGAATTTTGAATCGGGGCAAAATGGAATGATCTGTCAACATGTA 2103
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Db 1741 ACTCAGTTCAGATTTGTCTATGGGATTTCCCGCTGGGAAAGGAAACTTTGTGAGATTTT 1800
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Db 1801 GGGGATTTTGACGATGCCAATAAAGACAGTAA 1833

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